



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,682	06/10/2005	Brian Douglas Chapman	DC5060 PCT 1	6929
137 7590 10/01/2007 DOW CORNING CORPORATION CO1232 2200 W. SALZBURG ROAD P.O. BOX 994 MIDLAND, MI 48686-0994			EXAMINER LOEWE, ROBERT S	
			ART UNIT 1709	PAPER NUMBER
			NOTIFICATION DATE 10/01/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

Office Action Summary

Application No.

10/538,682

Applicant(s)

CHAPMAN ET AL.

Examiner

Robert Loewe

Art Unit

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/10/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to for the following reason: Formula (II) has an extra “(” [line 2 of formula (II)] and should be removed. Appropriate correction is required.

Claim 3 is objected to for the following reason: the term “-RSi(OSiR₃)₂” does not satisfy the valency requirement for silicon. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 6, 9-11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakayoshi et al. (US application 2002/0099114).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

Art Unit: 1709

inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 1: Nakayoshi et al. teaches a method comprising (1) heating in the presence of a catalyst, a mixture comprising (i) at least one organohydrogensilicon compound containing at least one silicon-bonded hydrogen atom per molecule or a reaction product obtained by mixing in the presence of a platinum group metal-containing catalyst at least one organohydrogensilicon compound containing at least one silicon-bonded hydrogen atom per molecule and at least one compound having at least one aliphatic unsaturation where in each case the organohydrogensilicon compound is described by formula (I) of instant claim 1 (paragraphs 0076-0081) with (ii) at least one endblocker described by formula (IV) of instant claim 1 (paragraphs 0059-0066) so as to cause polymerization of components (i) and (ii) to form silicon-bonded hydrogen containing branched polymers.

Claim 2: Nakayoshi et al. further teaches that b is an integer of 2 or 3 (paragraph 0076).

Claim 6: Nakayoshi et al. further teaches that R' is independently chosen from alkyl and alkenyl (paragraphs 0059-0066) and component (ii) is added between 3 and 1000 parts by weight based on 100 parts by weight of component (i) (paragraph 0025).

Claim 9: Nakayoshi et al. further teaches a branched polymer made by the method of claim 1 (paragraphs 0024-0027 and 0107).

Claim 10: Nakayoshi et al. further teaches a branched polymer of claim 10 (paragraphs 0024-0027 and 0107).

Art Unit: 1709

Claim 11: Nakayoshi et al. further teaches a composition comprising a branched polymer of claim 10, a Si-alkenyl crosslinker, a platinum-group containing catalyst (paragraphs 0024-0027 and 0107), and an inhibitor (paragraph 0097).

Claim 13: Nakayoshi et al. further teaches wherein the amount of catalyst is in the range of instant claim 13 (paragraph 0088).

Claims 1-3, 6, 8-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiki et al. (US Pat. 5,536,803).

Claim 1: Fujiki et al. teaches a method comprising heating in the presence of a catalyst, a mixture comprising (i) at least one organohydrogensilicon compound containing at least one silicon-bonded hydrogen atom per molecule which meets the structural limitations of instant claim 1 (structure on the bottom of columns 7 and 8 and structure on the top of columns 9 and 10), and (ii) at least one endblocker described by instant formula (IV) of instant claim 1 (R^1 is vinyl and alkyl groups (3:45-4:27)).

Claim 2: Fujiki et al. teaches that b is equal to 3 (structure on the bottom of columns 7 and 8 and structure on the top of columns 9 and 10).

Claim 3: Fujiki et al. teaches that each R group is independently selected from hydrogen atoms and alkyl groups, each X is a $Z-R^4$ group where Z is a divalent hydrocarbon group, and R^4 is selected from $-R_2SiO(R_2SiO)_dSiR_2-Z-G$ (structure on the bottom of columns 7 and 8 and structure on the top of columns 9 and 10).

Art Unit: 1709

Claim 6: Fujiki et al. teaches that R' is an alkyl group and that component (ii) is added in amounts from 0.01 to about 30 parts by weight based on 100 parts of component (i) (3:45-4:27 and 13:30-32).

Claim 8: Fujiki et al. further teaches that a sufficient ratio of aliphatic unsaturation to Si-H is used so that all the silicon-bonded hydrogen bonds on the organosilicon compound are reacted (13:30-36).

Claim 9: Fujiki et al. further teaches a branched polymer made by the method of instant claim 1 (15:5-9).

Claim 10: Fujiki et al. further teaches a composition comprising a branched polymer made by the method of instant claim 1 (14:47-64 and 15:5-9).

Claim 11: Fujiki et al. further teaches a composition comprising a branched polymer made by the method of claim 8 (13:30-36 and 14:47-64 and 15:5-9), a platinum-group containing catalyst (13:47-56), and an inhibitor (14:47-55).

Claim 13: Fujiki et al. further teaches wherein the amount of catalyst is in the range of instant claim 13 (13:57-62).

Claims 1, 6, 8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Krahnke et al. (US Pat. 6,127,502).

Claim 1: Krahnke et al. teaches an organohydrogensilicon compound containing at least one silicon-bonded hydrogen (which is a reaction product obtained by mixing in the presence of a platinum group metal-containing catalyst at least one organohydrogensilicon compound containing at least one silicon-bonded hydrogen atom per molecule and at least one compound

Art Unit: 1709

having at least one aliphatic unsaturation) which satisfies the structural limitations of formula (I) of instant claim 1 (example 2, step (a); R is hydrogen and methyl; X is a Z-R⁴ group where Z is a divalent hydrocarbon group and R⁴ is and SiR_vY_{3-v} group where Y is an alkoxy group and v is equal to 0). Krahne et al. further teaches heating this compound with an endblocker described by formula (IV) of instant claim 1 (example 2, step (b); vinyl endblocked polydimethylsiloxane) in the presence of a catalyst (example 2, step (b), platinum-containing catalyst) to cause polymerization of components (i) and (ii) to form branched polymers.

Claim 6: Krahne et al. further teaches that R' is independently chosen from alkyl and alkenyl, and component (ii) is added in an amount between 3 and 1000 parts by weight relative to component (i) (example 2, step (b)).

Claim 8: Krahne et al. further teaches that a sufficient ratio of aliphatic unsaturation to Si-H is used so that all the silicon-bonded hydrogen bonds on the organosilicon compound are reacted (example 2, step (b)).

Claim 13: Krahne et al. further teaches that the amount of catalyst is in the range of instant claim 13 (294 ppm catalyst complex) (example 2, step (b)).

Claims 1-6, 9-11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Asch et al. (US application 2006/0111491).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

Art Unit: 1709

inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 1: Asch et al. teaches a method of heating in the presence of a catalyst, a mixture comprising an organohydrogen silicon compound of formula (I) of instant claim 1 with an endblocker described by formula (IV) of instant claim 1 so as to cause polymerization of components (i) and (ii) to form branched polymers (examples 1-18).

Claims 2-5: Asch et al. further teaches identical structures found in instant claims 2-5 (structures of paragraph 0063).

Claim 6: Asch et al. further teaches that component (ii) is added in amounts from 3 to 1000 parts by weight based on 100 parts by weight of component (i) (example 1).

Claim 9: Asch et al. further teaches a branched polymer made by the method of instant claim 1 (examples 9-12).

Claim 10: Asch et al. further teaches a composition comprising a branched polymer of instant claim 10 (paragraph 0137).

Claim 11: Asch et al. further teaches a composition comprising a branched polymer of instant claim 10, a Si-alkenyl crosslinker, a platinum-group containing catalyst, and an inhibitor (paragraph 0137).

Claim 13: Asch et al. further teaches a method wherein the amount of catalyst is in the range of 10 ppm to 2 parts by weight based on the total weight percent solids in the composition (paragraph 0069).

Art Unit: 1709

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asch et al. (US application 2006/0111491) as applied to claim 1 above, and further in view of Hupfield et al. (US Pat. 6,353,075).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Asch et al. teaches all the limitations of instant claim 1 as applied above. Asch et al. does not teach that the catalyst is selected from phosphazene bases and that the reaction is carried out in the presence of a solvent. However, Hupfield et al. teaches that phosphazene bases can be employed within the claimed concentration, and further teaches that the reaction is carried out in the presence of a solvent (abstract and 2:46-50). Asch et al. and Hupfield et al. are combinable because they are from the same field of endeavor, namely, polymerization of siloxanes. At the time of invention, a person having ordinary skill in the art would have found it obvious to utilize the catalyst as taught by Hupfield et al. into the method of Asch et al. and would have been motivated to do so since Hupfield et al. teaches that phosphazene bases are found to be a very powerful catalyst for the ring-opening polymerization of cyclosiloxanes (2:40-45 and 3:58-4:13).

Relevant Art Cited

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form. Sato et al. is deemed to be an anticipatory reference.

Correspondence

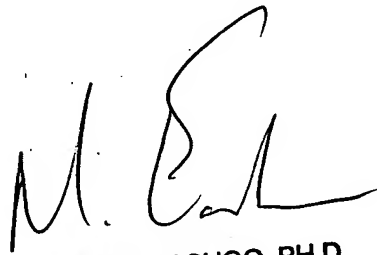
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 9:30 AM to 7:00 PM EST.

Art Unit: 1709

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RSL
29-August-2007


MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

17/Sep/07